

Gamma Cystathionase Monoclonal antibody

Catalog Number: 60234-1-Ig

Featured Product

34 Publications

Basic Information

Catalog Number:

60234-1-Ig

Concentration:

1700 ug/ml

Source:

Mouse

Isotype:

IgG1

Immunogen Catalog Number:

AG2872

GenBank Accession Number:

BC015807

GeneID (NCBI):

1491

UNIPROT ID:

P32929

Full Name:

cystathionase (cystathionine gamma-lyase)

Calculated MW:

405 aa, 45 kDa

Observed MW:

40-45 kDa

Purification Method:

Protein G purification

CloneNo.:

2C7F9

Recommended Dilutions:

WB 1:5000-1:50000

IHC 1:200-1:800

IF/ICC 1:20-1:200

Applications

Tested Applications:

WB, IHC, IF/ICC, ELISA

Cited Applications:

WB, IHC, IF

Species Specificity:

human, mouse, rat

Cited Species:

human, mouse, rat, canine

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : LNCaP cells, HSC-T6 cells, PC-3 cells, HEK-293 cells, HeLa cells, A431 cells, NIH/3T3 cells, HepG2 cells, K-562 cells

IHC : human lung cancer tissue, human liver cancer tissue

IF/ICC : HepG2 cells,

Background Information

CTH, also named as Gamma-cystathionase and CSE, belongs to the transsulfuration enzymes family. It catalyzes the last step in the transsulfuration pathway from methionine to cysteine. CTH converts two cysteine molecules to lanthionine and hydrogen sulfide. CTH can also accept homocysteine as substrate. Its specificity depends on the levels of the endogenous substrates. CTH is the major H₂S-producing enzyme in kidney, liver, vascular smooth muscle cells and enterocytes. The endogenous production of H₂S plays a significant role in the regulation of cellular functions, including cell growth, hyperpolarization of cell membranes, modulation of neuronal excitability and relaxation of smooth muscle cells. The CSE/H₂S pathway is upregulated in the heart in a murine model of CVB3-induced myocarditis and that inhibition of endogenous H₂S is beneficial to treatment early in the disease while administration of exogenous H₂S is protective to infected myocardium during the later stage. Mutations in the gene encoding CTH can result in the autosomal recessive disease cystathioninuria; a disorder characterized by the unusual accumulation of plasma cystathionine causing increased urinary excretion. Both male and female CTH-null mice showed hypercystathioninemia and hyperhomocysteinemia, but not hypermethioninemia. CSE has also been reported to be expressed in endothelial cells and contribute to endothelium-dependent vasorelaxation. It can be detected as a minor 36 kDa band probably representing a degradative intermediate except the major 43 kDa band in vitamin B6-deficient rat liver (PMID:8660672). CTH also can be detected as ~70kD in rat liver (PMID: 18974309).

Notable Publications

Author	Pubmed ID	Journal	Application
Lara Testai	27616550	Pharmacol Res	WB
Xubo Chen	29038536	Sci Rep	WB
Elisabetta Panza	35605291	Biomed Pharmacother	WB

Storage

Storage:

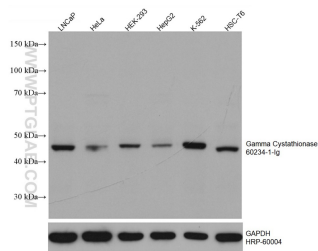
Store at -20°C. Stable for one year after shipment.

Storage Buffer:

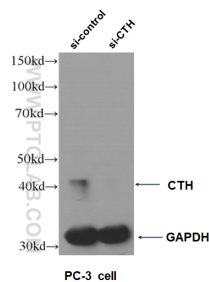
PBS with 0.02% sodium azide and 50% glycerol, pH7.3

Aliquoting is unnecessary for -20°C storage

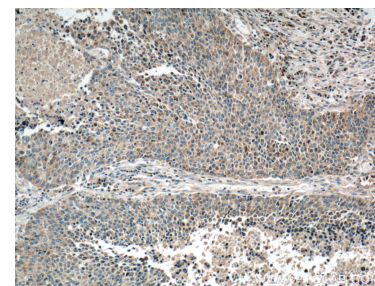
Selected Validation Data



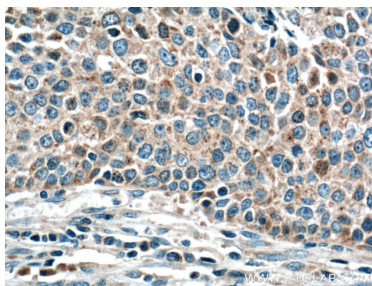
Various lysates were subjected to SDS PAGE followed by western blot with 60234-1-Ig (Gamma Cystathionase antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours. The membrane was stripped and reblotted with HRP-conjugated GAPDH Monoclonal antibody (HRP-60004) as loading control.



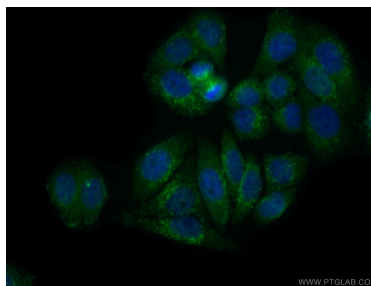
WB result of CTH antibody (60234-1-Ig, 1:500) with si-control and si-CTH transfected PC-3 cells.



Immunohistochemical analysis of paraffin-embedded human lung cancer tissue slide using 60234-1-Ig (Gamma cystathionase antibody at dilution of 1:400 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunohistochemical analysis of paraffin-embedded human lung cancer tissue slide using 60234-1-Ig (Gamma cystathionase antibody at dilution of 1:400 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (10% Formaldehyde) fixed HepG2 cells using 60234-1-Ig (Gamma cystathionase antibody) at dilution of 1:50 and Alexa Fluor 488-conjugated AffiniPure Goat Anti-Mouse IgG(H+L).